

Training University Faculty to Teach Future Meteorologists to Incorporate GOES-R Data in the Forecast Process

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What/Who is COMET?

www.comet.ucar.edu



Serving meteorologists
and the geosciences since 1989

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Welcome to The COMET® Program



COMET Staff, September 2011

On behalf of our sponsors, parent organization, and our staff, welcome to the COMET website. Here you will find information on who we are, what we do, and links to our various online resources.

The COMET® Program is a world-wide leader in support of education and training for the environmental sciences, delivering scientifically relevant and instructionally progressive products and services. We are a talented team of dedicated individuals producing quality educational materials since 1989. We're proud of our accomplishments of the past 20+ years and look forward to continue serving our diverse user community for years to come.

Dr. Tim Spangler, Director - see the [Director's Page](#) for Tim's latest news
E-mail: tspang@ucar.edu



Quick Links to COMET Sites

- [MetEd](#)
- [MetEd Registration and Support FAQ](#)
- [MetEd en Español](#)
- [Outreach Program](#)
- [COMET Virtual Classroom](#)
- [Environmental Satellite Resource Center](#)

MetEd Subscriptions

- [New Publications RSS](#)
- [New Publications Mailing List](#)

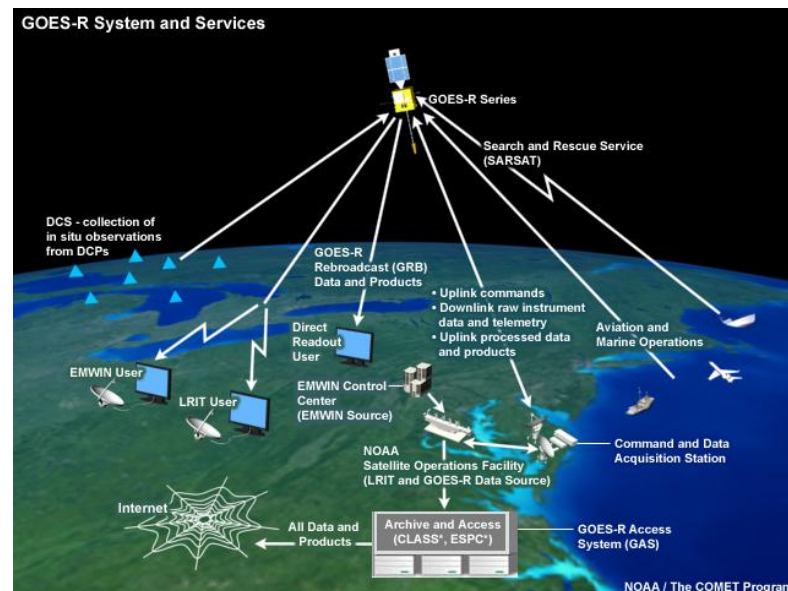
Connect with COMET



[MetEd and our most recent publications](#)

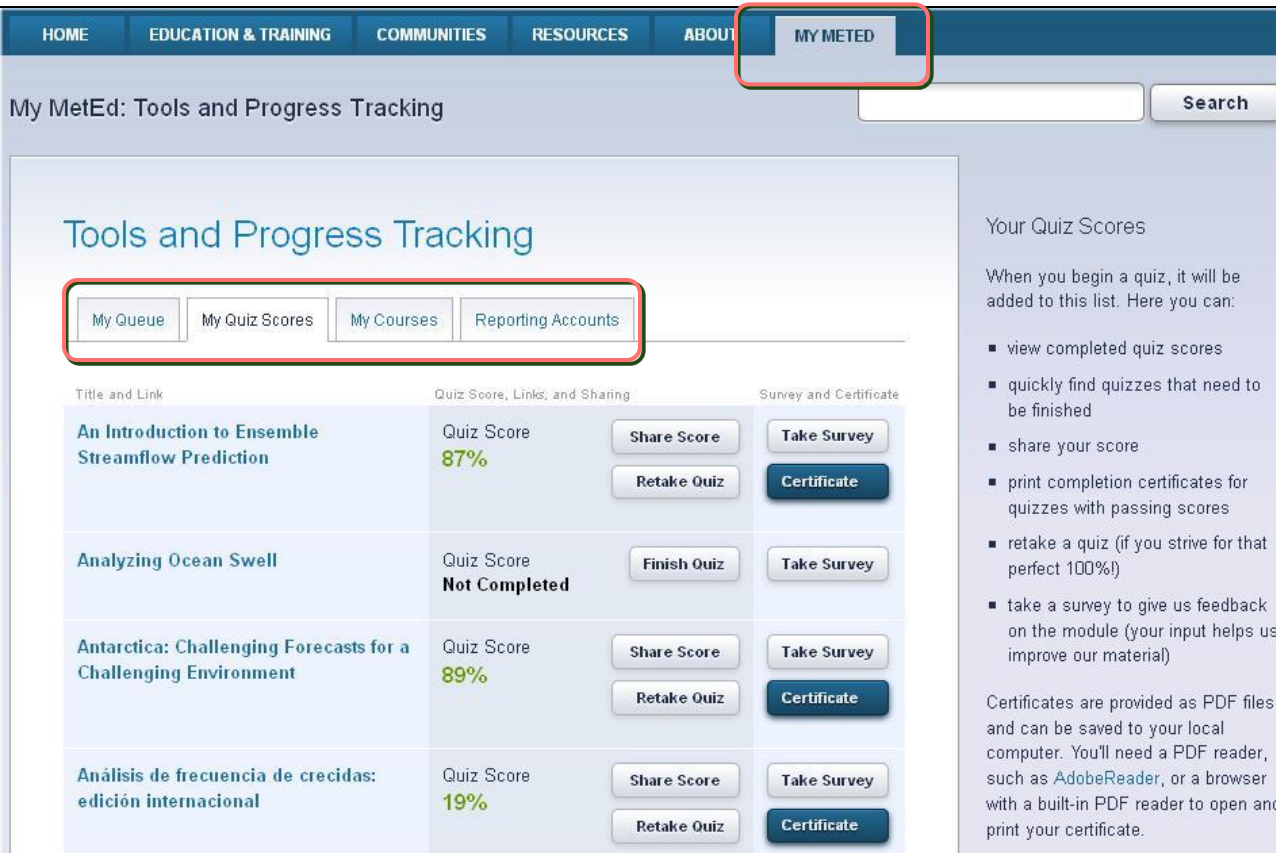
COMET GOES-R Resources

- FREE Web-based Materials
- Registration and Assessment System
- Summer Faculty Course



Join our group

Registration & Assessment System



HOME EDUCATION & TRAINING COMMUNITIES RESOURCES ABOUT MY METED

My MetEd: Tools and Progress Tracking

Tools and Progress Tracking

My Queue My Quiz Scores My Courses Reporting Accounts

Title and Link	Quiz Score, Links, and Sharing	Survey and Certificate
An Introduction to Ensemble Streamflow Prediction	Quiz Score 87%	Share Score Retake Quiz Take Survey Certificate
Analyzing Ocean Swell	Quiz Score Not Completed	Finish Quiz Take Survey
Antarctica: Challenging Forecasts for a Challenging Environment	Quiz Score 89%	Share Score Retake Quiz Take Survey Certificate
Análisis de frecuencia de crecidas: edición internacional	Quiz Score 19%	Share Score Retake Quiz Take Survey Certificate

Your Quiz Scores

When you begin a quiz, it will be added to this list. Here you can:

- view completed quiz scores
- quickly find quizzes that need to be finished
- share your score
- print completion certificates for quizzes with passing scores
- retake a quiz (if you strive for that perfect 100%!)
 - take a survey to give us feedback on the module (your input helps us improve our material)

Certificates are provided as PDF files and can be saved to your local computer. You'll need a PDF reader, such as AdobeReader, or a browser with a built-in PDF reader to open and print your certificate.

- Part of MetEd website
- Developed to allow users to take quizzes with each lesson to receive a certificate of completion
- Student may give permission so that the quiz results may be shared via email with instructor



Simple FREE Registration Required

MetEd

English Español

Sign Up

Have an account?

Sign In

HOME

EDUCATION & TRAINING

COMMUNITIES

RESOURCES

ABOUT

MY METED

Join the MetEd Community

Search

Registration is Easy...

...and required to access our educational materials. Once registered, you'll have access to hundreds of hours of quality content, all available free for non-commercial use.

Start Here

All fields labeled with (*) are required.

☐ I am at least age 13*

Email

Already Have an Account?

Sign In

[Forgot your password?](#)

Registration Support and FAQs

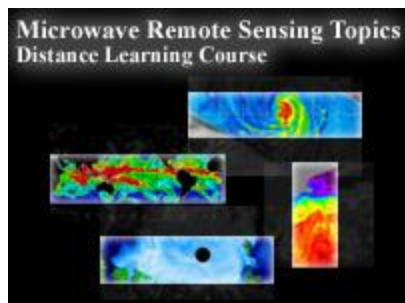
In order to better serve our users and sponsors, access to our online materials requires registration. To learn more about registering or to get help with common questions about our site, please visit our FAQs.

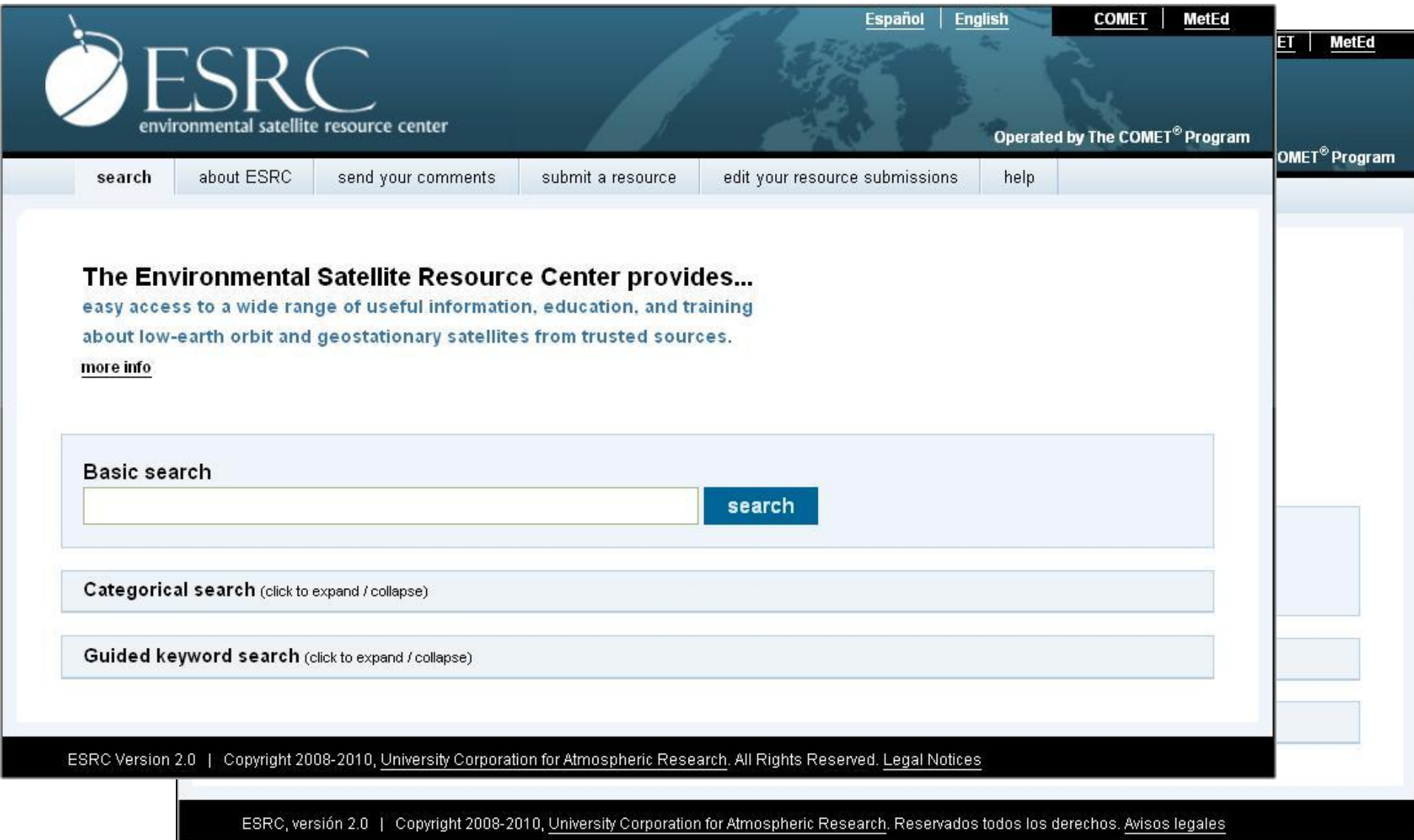
Go

Education Registrants

- Total MetEd Users = 205,570
- Total Education Users, 19 Jan. 2012 = 95,809
- Number of Universities Represented = 1367

GOES-R Related Modules



A screenshot of the Environmental Satellite Resource Center (ESRC) website. The header features the ESRC logo, navigation links for Spanish and English, and links to COMET and MetEd. A secondary header on the right also includes COMET and MetEd links. Below the header is a navigation bar with links: search, about ESRC, send your comments, submit a resource, edit your resource submissions, and help. The main content area states the center's purpose: providing easy access to information, education, and training about low-earth orbit and geostationary satellites. It includes a "more info" link and three search sections: Basic search (with a text input and search button), Categorical search (click to expand / collapse), and Guided keyword search (click to expand / collapse). The footer contains copyright information for 2008-2010, University Corporation for Atmospheric Research, and links to legal notices in English and Spanish.

ESRC
environmental satellite resource center

[Español](#) | [English](#) | [COMET](#) | [MetEd](#)

Operated by The COMET® Program

[search](#) | [about ESRC](#) | [send your comments](#) | [submit a resource](#) | [edit your resource submissions](#) | [help](#)

The Environmental Satellite Resource Center provides...
easy access to a wide range of useful information, education, and training
about low-earth orbit and geostationary satellites from trusted sources.
[more info](#)

Basic search

[search](#)

Categorical search (click to expand / collapse)

Guided keyword search (click to expand / collapse)

ESRC Version 2.0 | Copyright 2008-2010, [University Corporation for Atmospheric Research](#). All Rights Reserved. [Legal Notices](#)

ESRC, versión 2.0 | Copyright 2008-2010, [University Corporation for Atmospheric Research](#). Reservados todos los derechos. [Avisos legales](#)

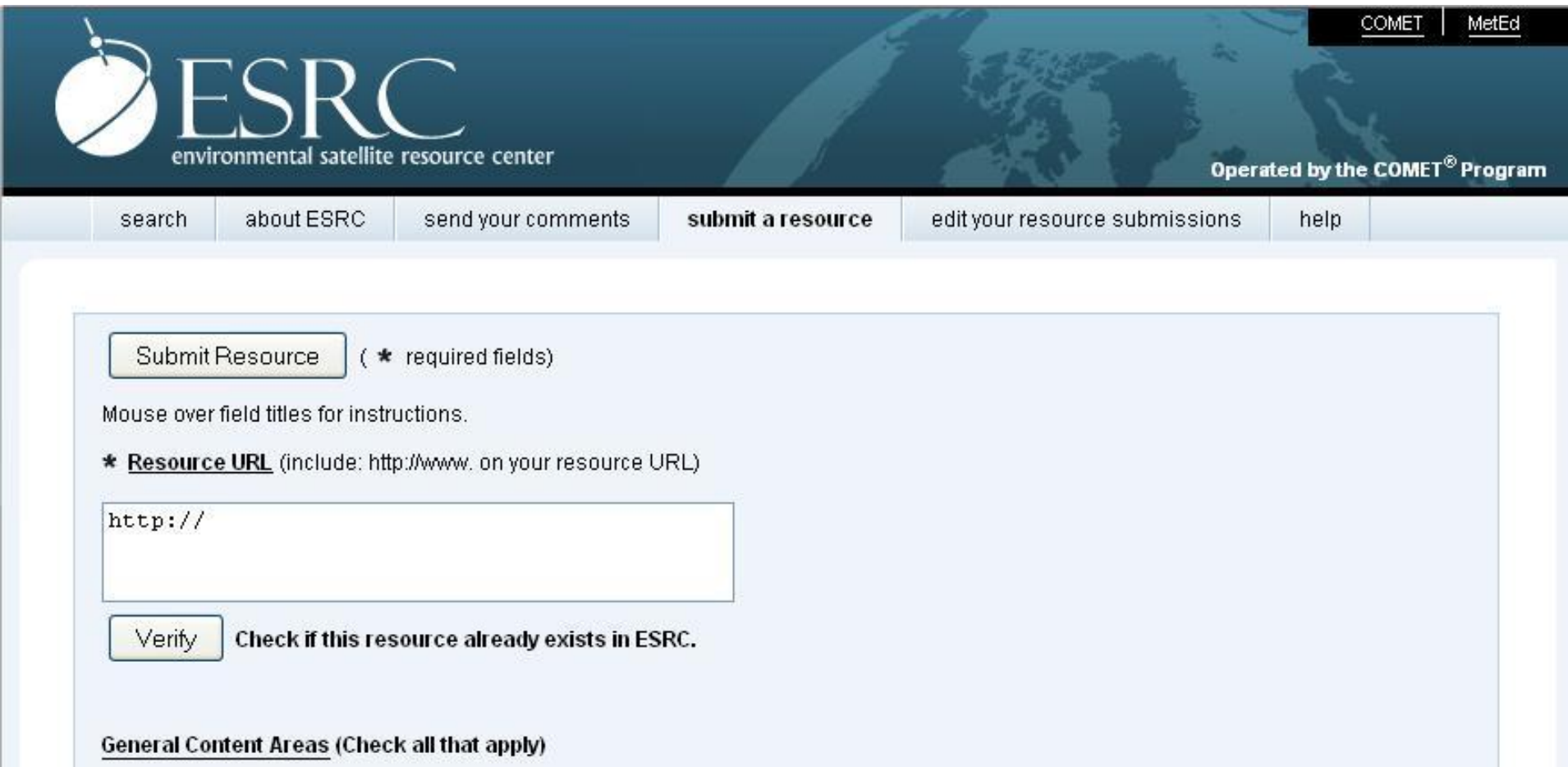



The ESRC: COMET's Role

- Maintain the ESRC website
- Populate it with our own materials, including smaller, focused learning-objects derived from our larger training modules
- Provide the necessary quality assurance and monitoring to ensure that all resources are appropriate and well described before being made available

Community's Role in the ESRC

- Use the site
- Populate it with materials that you know and trust using the online submission form

A screenshot of the ESRC (Environmental Satellite Resource Center) website. The header features the ESRC logo and the text "environmental satellite resource center". To the right, it says "Operated by the COMET® Program". A navigation bar contains links: "search", "about ESRC", "send your comments", "submit a resource", "edit your resource submissions", and "help". The main content area shows a "Submit Resource" button with a note "(* required fields)". Below this, it says "Mouse over field titles for instructions." and "* **Resource URL** (include: http://www. on your resource URL)". A text input field contains "http://". Below the field is a "Verify" button and the text "Check if this resource already exists in ESRC." At the bottom, it says "General Content Areas (Check all that apply)".

 **ESRC**
environmental satellite resource center

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search about ESRC send your comments **submit a resource** edit your resource submissions help

(* required fields)

Mouse over field titles for instructions.

* **Resource URL** (include: http://www. on your resource URL)

http://

Check if this resource already exists in ESRC.

General Content Areas (Check all that apply)

2011 Faculty Course

➤ ***“Integrating Satellite Data and Products into Geoscience Courses with Emphasis on Advances in Geostationary Satellite Systems”***

- ✓ Held 8-12 August 2011 in Boulder, CO
- ✓ 24 faculty participants from across the US and the Caribbean
- ✓ Now prepared to teach future meteorologists about current advanced capabilities as well as next generation satellite data and products



Participants

- Institutions
 - ✓ Four-year colleges
 - ✓ Community colleges
 - ✓ High school
- Countries
 - ✓ US
 - ✓ Barbados
 - ✓ Costa Rica
 - ✓ Honduras



COMET Faculty Course
8-12 August 2011
Agenda

Time	Monday, 8 August	Tuesday, 9 August	Wednesday, 10 August	Thursday, 11 August	Friday, 12 August
08:30 to 12:00	<p>Logistics (Harrison)</p> <p>Welcome and Introduction (Kidder, Abshire, Page)</p> <p>Advances in Geostationary Satellite Systems (GOES-R) (Kidder)</p> <p>MetEd Satellite Meteorology Modules (Abshire)</p>	<p>Check-In/Feedback (Kidder et al.)</p> <p>Intro to Remote Sensing (Kidder)</p> <p>Introduction to Viewing Satellite Data</p> <p>Viewing Satellite Data Lab (Kidder)</p> <p>Group Photo 11:30 AM</p>	<p>CIRA Field Trip Leave at 8:00 AM arrive 9:30 AM</p> <p>Check-In/Feedback (Kidder et al.)</p> <p>Tour of CIRA Facilities (include Cloud Sat Data Processing Center) (Kidder)</p> <p>NexSat (Steve Miller)</p>	<p>Check-In/Feedback (Kidder et al.)</p> <p>Accessing Remote Sensing Data Unidata and IDV (Yoksas)</p> <p>Developing Lab Exercises using remote sensing data (Page)</p>	<p>Teams Reports & Plans for the Future (Teams)</p> <p>Workshop Wrap-Up, Discussion, MetEd Feedback, Action Items (Kidder, Muller, Abshire, Page, Guarente)</p> <p>Evaluations and Certificates</p>
12:00 to 13:00	Lunch	Lunch	Lunch bring in food 12:00 to 1:30PM	Lunch	ADJOURN
13:00 to 17:00	<p>Real-time Data Discussion and how to (Page)</p> <p>ESRC (Guarente)</p> <p>Introduction to Projects and Teams (All)</p> <p>MetEd Lab and Initial Project Planning (Guarente, Page, Kidder)</p> <p>Wrap-up</p>	<p>Real-time Data Discussion (Class Volunteer)</p> <p>Teams Meet to work on Projects (Teams)</p> <p>Severe Weather (Lindsey)</p> <p>Severe Weather Lab</p> <p>Wrap-up</p>	<p>Tropical Applications (Schumacher)</p> <p>Tropical Lab (Schumacher)</p> <p>Wx Briefing highlighting Satellite Imagery (NOAA Staff)</p> <p>Google Earth (Kevin Micke)</p> <p>Wrap-up</p> <p>Depart for Old Town Ft Collins</p>	<p>Real-time Data Discussion (Class Volunteer)</p> <p>Atmospheric Rivers QPF/Flooding and Satellite (Kelsch)</p> <p>Teams Meet for Project Work (Teams)</p> <p>Wrap-up</p>	
After 17:00	RECEPTION	ADJOURN	Dinner in Old Town Ft Collins	ADJOURN	

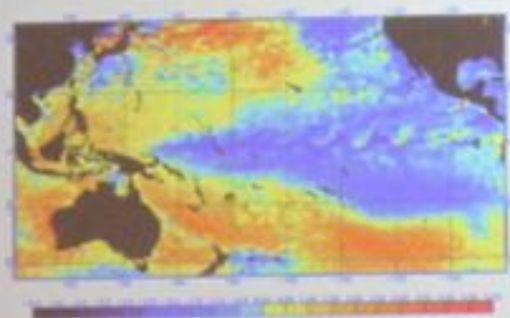
Course Activities

- Project
 - ✓ Teams of 2-4 participants
 - ✓ Each person presented their plans at the end of the course
- Labs and class exercises
- Field trip to CIRA

Examples of Projects

- *Adding GOES-R Simulated Products to Image Interpretation Lectures*
- *Applying GOES-R Data to the Analysis of Overshooting Tops*
- *Using Air Quality and Wildfire Products in Central America*
- *Applying Satellite Imagery and Google Earth to Evaluating the Marine Layer*
- *Integrating Satellite Data into Courses in Chemistry, Biology, Zoology, Microbiology, Astronomy, Environmental Science, and Physics*

Sea Surface Temperature Analysis



Channel	Usage	Bandwidth (Hz)	NETT/SNR	Upper Limit of Dynamic Range	Spatial Resolution
1	10.0 - 10.5	0.40	3000:1 ⁽¹⁾	65.2 W/m ² /degism	1 km
2	10.5 - 11.0	0.40	3000:1 ⁽¹⁾	51.9 W/m ² /degism	0.5 km
3	11.0 - 11.5	0.40	3000:1 ⁽¹⁾	30.5 W/m ² /degism	1 km
4	11.5 - 12.0	0.40	3000:1 ⁽¹⁾	11.4 W/m ² /degism	2 km
5	12.0 - 12.5	0.40	3000:1 ⁽¹⁾	7.7 W/m ² /degism	1 km
6	12.5 - 13.0	0.40	3000:1 ⁽¹⁾	3.4 W/m ² /degism	2 km
7	13.0 - 13.5	0.40	3000:1 ⁽¹⁾	4000K	2 km
8	13.5 - 14.0	0.40	3000:1 ⁽¹⁾	3000K	2 km
9	14.0 - 14.5	0.40	3000:1 ⁽¹⁾	2000K	2 km
10	14.5 - 15.0	0.40	3000:1 ⁽¹⁾	1500K	2 km
11	15.0 - 15.5	0.40	3000:1 ⁽¹⁾	1000K	2 km
12	15.5 - 16.0	0.40	3000:1 ⁽¹⁾	500K	2 km
13	16.0 - 16.5	0.40	3000:1 ⁽¹⁾	300K	2 km
14	16.5 - 17.0	0.40	3000:1 ⁽¹⁾	200K	2 km
15	17.0 - 17.5	0.40	3000:1 ⁽¹⁾	100K	2 km
16	17.5 - 18.0	0.40	3000:1 ⁽¹⁾	50K	2 km
17	18.0 - 18.5	0.40	3000:1 ⁽¹⁾	25K	2 km

1/2/300K scene.

Summary

- Resources available from COMET
 - ✓ Free online modules
 - ✓ Registration and Assessment System
 - ✓ ESRC
- Faculty Course
 - ✓ Participants take classroom-ready resources back with them
 - ✓ Projects helped expand the impact of the experience

Questions? Comments?

Key URLs:

- <http://meted.ucar.edu>
- <http://meted.ucar.edu/communities/education/>

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